

Supplementary Material

Flowers in Australia: Phytochemical Studies on the Illawarra Flame Tree and Alstonville

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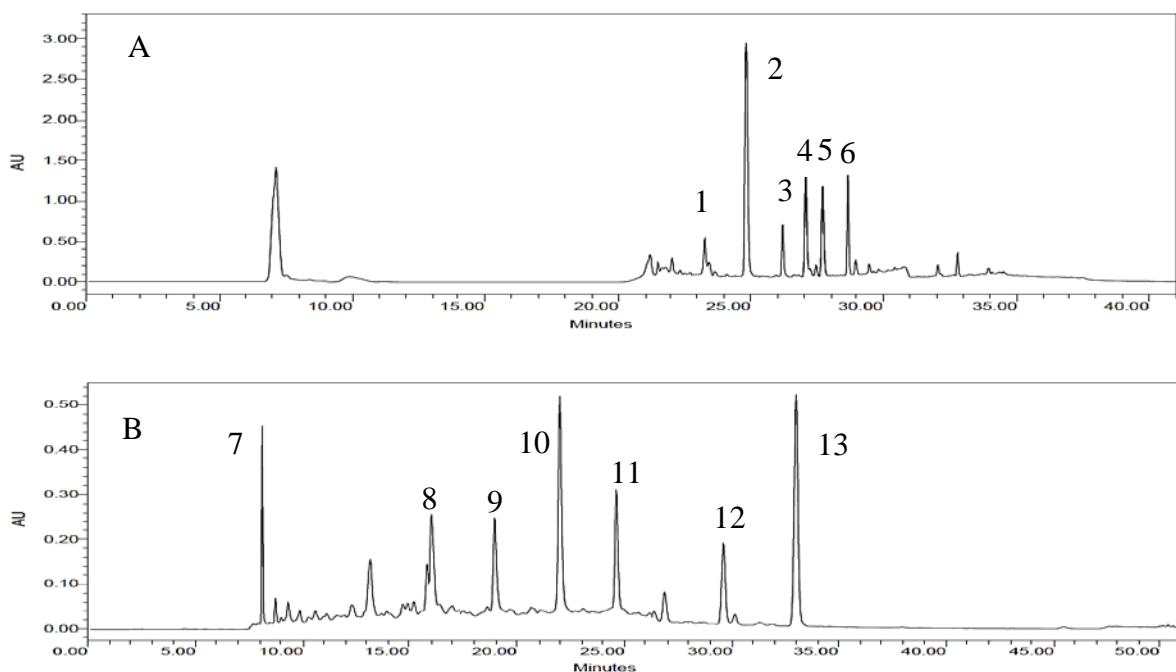
General Procedures

The HPLC profile from both species were perform using a Waters (Waters 1525 pump, Waters 2487 detector, controlled by Breeze software v3.30) with a Symmetry C-18 column (5 μ m, 4.9 x 150 mm) with a Wakosil C-18 RS column (5 μ m, 4.6 x 250 mm). All compounds were isolated by Preparative HPLC using a Waters prep-LC system (LC-600 controller, 2489 detector, LC150 Pump, PD1 degasser) with a Waters reverse-phase OBD SunfireTM C-18 column (5 μ m, 19 x 150 mm) protected with a Waters SunfireTM C-18 guard column (5 μ m, 19 x 10 mm). All analytical HPLC samples were filtered through Grace syringe filter PTFE 0.45 μ m, 4 mm and preparative HPLC samples were filtered through Grace syringe filter 0.45 μ m, 30 mm. A Büchi Rotary Evaporator (R-114/200) with a high vacuum pump was used for evaporation of solvents under reduced pressure at 40 °C.

Proton (^1H) and carbon (^{13}C) nuclear magnetic resonance (NMR) spectra were recorded at 500 and 125.7 MHz respectively on a Varian Unity Inova-500 MHz spectrometer, controlled by Varian VNMR software (version 6.1 revision C). NMR spectra were acquired in CD₃OD with chemical shifts (δ) reported in parts per million (ppm) relative to CD₃OD (^1H : δ = 3.31 ppm; ^{13}C : δ = 49.2 ppm) (unless otherwise specified). Coupling constants (J) are reported in Hertz (Hz). J values listed in ^1H NMR spectral data refer to coupling between hydrogen nuclei.

Electrospray (ESI) mass spectra were obtained on a LCMS-2010 EV (Shimadzu). Samples were injected as a solution in methanol HPLC grade. High Resolution (HR) ESI mass spectrometry (MS) was performed on a Micromass QTOF2 Ultima Spectrometer.

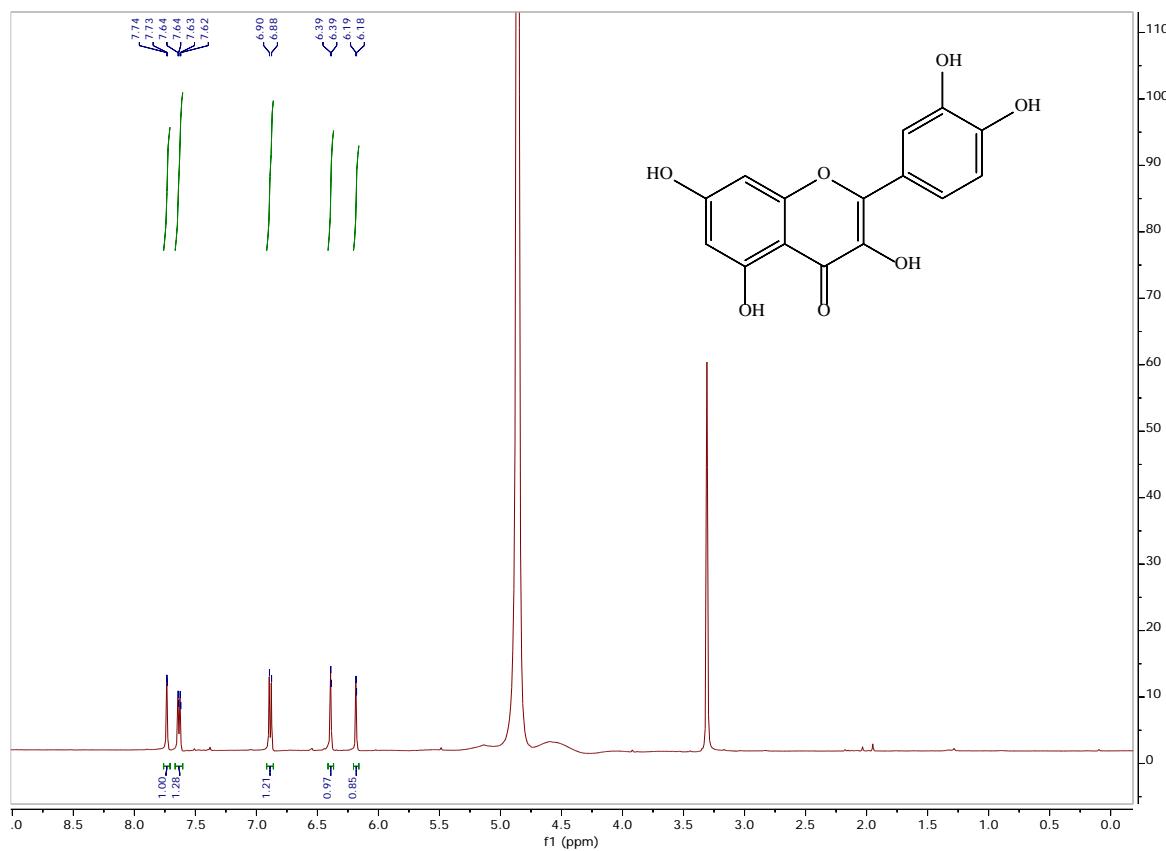
Optical Rotations were measured at 25 °C in methanol with a path length of 1.0 dm on a Jasco P-2000 Digital Polarimeter ($\lambda = 589$ nm) and concentrations (c) are given in g/100 mL. CD Spectra were recorded on a JASCO J-810 spectropolarimeter with pathlength 0.1 cm and concentration between 50-100 μ M in methanol.



HPLC profile from Illawarra flame (*B. acerifolius*) (A) and Alstonville flowers (*T. lepidota*) polar extracts(B).

Compound 1 and 10

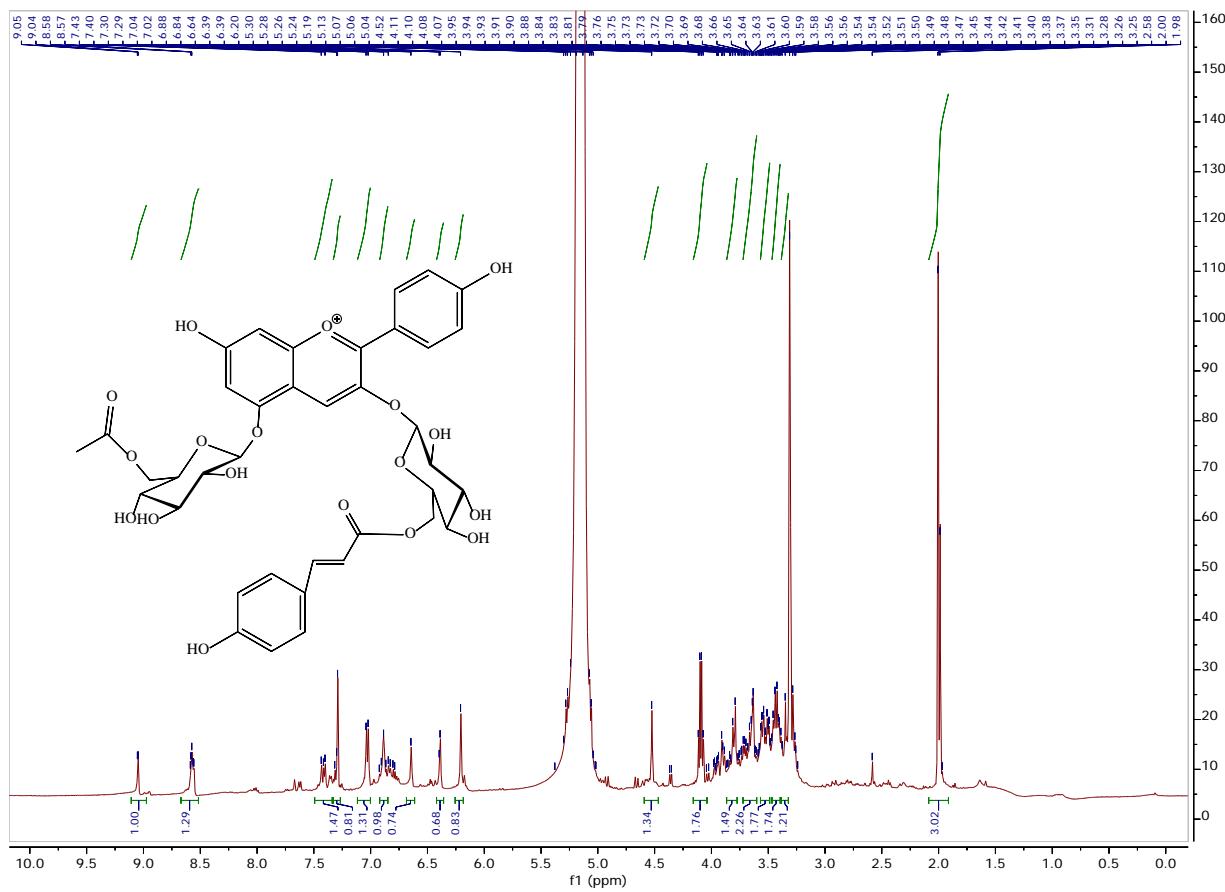
Quercetin, light yellow solid. ESIMS, m/z : 303 [M+1]⁺. UVmax (MeOH) (nm): 229; 255; 371.



Position	Experiment (CD_3OD)		Literature (CD_3OD) ^[14]	
	Proton	Carbon	Proton	Carbon
2		158.6		156.6
3		135.1		135.2
4		178.5		175.9
5		163.1		161.0
6	6.18 (d, $J = 2.1$ Hz)	99.0	6.27 (d, $J = 2.1$ Hz)	97.8
7		165.3		164.1
8	6.39 (d, $J = 2.1$ Hz)	94.0	6.54 (d, $J = 2.1$ Hz)	93.5
8a		159.1		156.8
4a		105.7		104.1
1'		122.2		122.7
2'	7.73 (d, $J = 2.1$ Hz)	114.5	7.74 (d, $J = 2.1$ Hz)	114.8
3'		149.8		147.3
4'		145.9		144.8
5'	6.89 (d, $J = 8.5$ Hz)	114.6	6.90 (d, $J = 8.5$ Hz)	114.6
6'	7.63 (dd, $J = 8.5, 2.2$ Hz)	120.5	7.64 (dd, $J = 8.5, 2.2$ Hz)	120.2

Compound 2

Pelargonidin 3-(6-coumaryl- β -glucoside)-5-(6-acetyl- β -glucoside). UVmax (MeOH) (nm): 233; 344; 508. ESIMS, m/z : 783 [$M+1$]⁺.

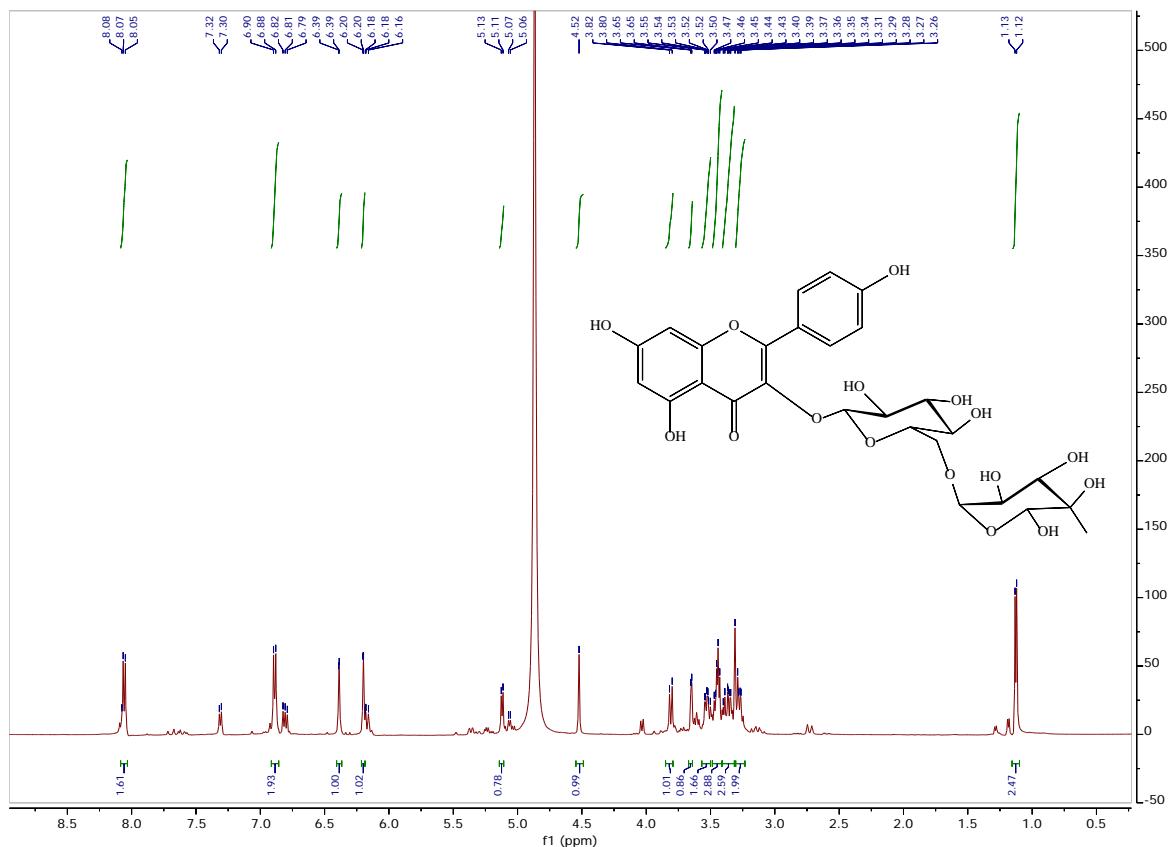


Position	Experiment (0.1% CF_3COOD in CD_3OD)		Literature (0.1% CF_3COOD in CD_3OD) ^[15]	
	Proton	Carbon	Proton	Carbon
2		164.5		165.2
3		145.6		145.8
4	9.05 (s)	135.8	8.94 (s)	135.6
5		156.7		156.4
6	6.19 (s)	98.6	6.97 (d)	106.1
7		168.8		169.9
8	6.17 (s)	98.6	6.96 (d)	97.4
8a		157.4		157.1
4a		111.5		113.3
1'		119.0		120.6
2'	8.56 (s)	134.5	8.56 (d)	136.2
3'	7.05 (d, $J = 8.9$ Hz)	116.5	7.04 (d)	118.2
4'		167.8		167.4
5'	7.05 (d, $J = 8.9$ Hz)	116.5	7.04 (d)	148.5
6'	8.56 (s)	134.5	8.56 (s)	136.2

<i>p</i> - Coumaryl				
1"		127.9		126.7
2"	7.26 (s)	132.4	7.19 (s)	131.4
3"	6.88 (d, <i>J</i> = 8.9 Hz)	114.5	6.69 (d)	116.8
4"		160.3		161.3
5"	6.88 (d, <i>J</i> = 8.9 Hz)	114.5	6.69 (d)	116.3
6"	7.26 (s)	132.1	7.19 (s)	131.4
7"	7.38 (d, <i>J</i> = 12.4 Hz)	149.8	7.34 (d)	147.1
8"	6.23 (d, <i>J</i> = 12.5 Hz)	115.1	6.23 (d)	114.7
9"		170.1		169.2
Acetyl				
1'''		171.1		172.9
2'''	1.99 (s)	19.2	1.99 (s)	20.7
Glucose A				
1	5.29 (d, <i>J</i> = 7.0 Hz)	103.7	5.38 (d)	102.8
2	3.71 (m)	74.9	3.71 (dd)	74.8
3	3.68 (t, <i>J</i> = 6.5 Hz)	78.6	3.58 (t)	78.2
4	3.40 (m)	72.3	3.50 (m)	72.3
5	3.80 (dd, <i>J</i> = 8.4 Hz, 8.0 Hz) 3.45 (m)	75.4	3.90 dd/ 3.55 (m)	75.5
6	4.45-4.52 (m)	64.2	4.45-4.52 (m)	64.5
Glucose B				
1	5.06 (d, <i>J</i> = 7.5 Hz)	100.2	5.18 (d)	102.8
2	3.79 (m)	74.2	3.77 (dd)	74.8
3	3.60 (t, <i>J</i> = 6.5 Hz)	77.5	3.57 (dd)	77.7
4	3.47 (m)	71.3	3.43 (dd)	71.1
5	3.68 (m)	76.4	3.62 (ddd)	76.0
6	3.71 (dd, <i>J</i> = 8.4 Hz, 8.0 Hz)/ 4.06 (dd, <i>J</i> = 8.4 Hz, 8.0 Hz)	64.5	3.75 (dd)/ 4.02 (dd)	64.5

Compound 3

Kaempferol 3-rutinoside, yellow solid. UVmax (MeOH) (nm): 225; 268; 349. ESIMS, m/z : 595 [M+1]⁺. HRESIMS: calculated for C₂₇H₃₀O₁₅Na [M+Na]⁺: 617.1482, found 617.1484



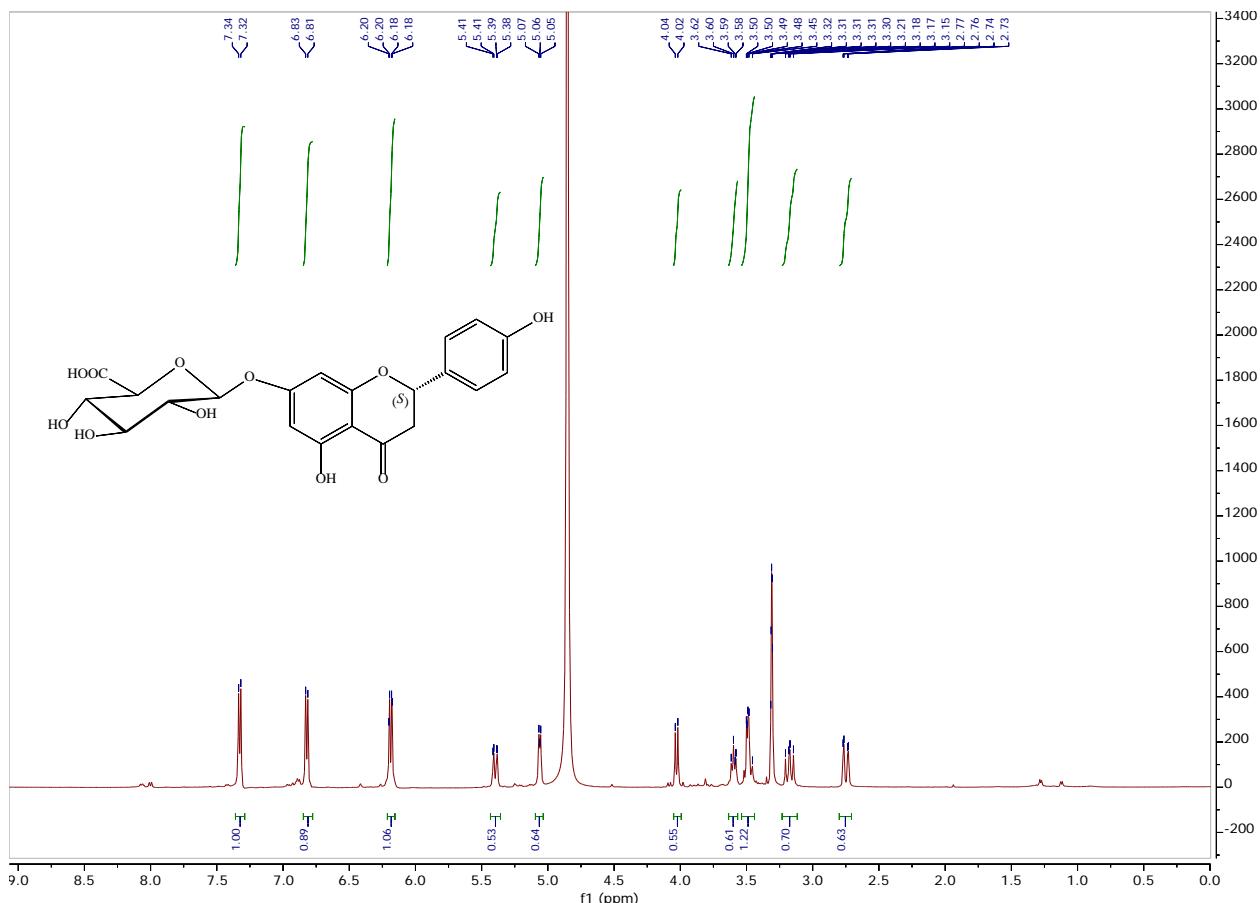
Position	Experiment (CD ₃ OD)		Literature (CD ₃ OD) ^[14]	
	Proton	Carbon	Proton	Carbon
2		161.6		161.4
3		135.3		135.5
4		179.5		179.4
5		163.1		163.0
6	6.20 (d, $J = 2.1$ Hz)	99.8	6.21 (d)	99.9
7		166.1		166.0
8	6.39 (d, $J = 2.1$ Hz)	94.4	6.40 (d)	94.9
8a		158.6		158.5
4a		105.7		105.5
1'		122.7		122.7
2'	8.06 (d, $J = 8.4$ Hz)	132.6	8.05 (d)	132.3
3'	6.89 (d, $J = 8.5$ Hz)	116.4	6.89 (d)	116.1
4'		159.5		159.4
5'	6.89 (d, $J = 8.5$ Hz)	116.4	6.89 (d)	116.1
6'	8.06 (d, $J = 8.4$ Hz)	132.6	8.05 (d)	132.3

3-Glucosyl

1	5.12 (d, $J = 7.0$ Hz)	104.8	5.12 (d)	104.5
2	3.43 (m)	75.9	3.43 (dd)	75.7
3	3.40 (t, $J = 6.5$ Hz)	78.3	3.40 (t)	78.1
4	3.24 (dd, $J = 8.4$ Hz, 8.0 Hz)	71.6	3.24 (t)	71.4
5	3.32 (m)	77.3	3.32 (ddd)	77.2
6	3.80 (dd, $J = 8.4$ Hz, 8.0 Hz)/3.37 (dd, $J =$ 8.4 Hz, 8.0 Hz)	68.7	3.80 (dd)/3.37 (dd)	68.5
<hr/>				
6"- Rhamnosyl				
1	4.52 (s)	102.5	4.51 (s)	102.4
2	3.62 (dd, $J = 8.4$ Hz, 8.0 Hz)	72.2	3.62 (dd)	72.1
3	3.51 (dd, $J = 8.4$ Hz, 8.0 Hz)	72.4	3.51 (dd)	72.3
4	3.27 (dd, $J = 8.4$ Hz, 8.0 Hz)	74.0	3.27 (t)	73.8
5	3.44 dd, $J = 8.4$ Hz, 8.0 Hz)	69.9	3.44 (dq)	69.7
6	1.11 (s)	18.1	1.11 (d)	17.9

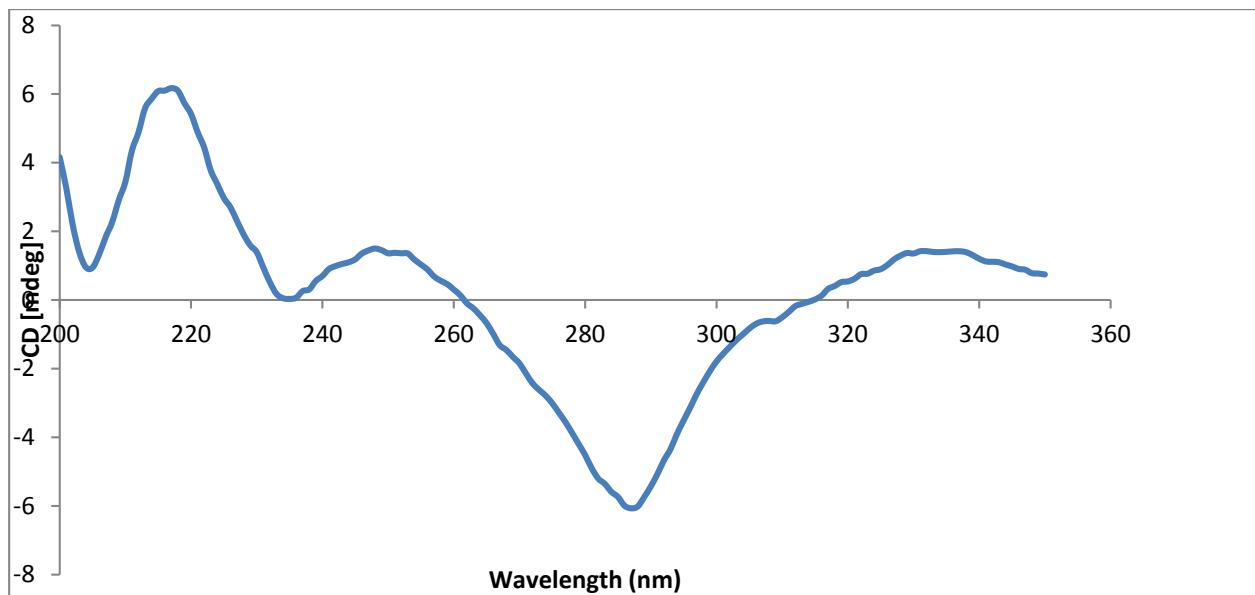
Compound 4

Naringenin 7-O-glucuronide. Dark yellow solid. $[\alpha]_D^{25} -35.9^\circ$ (c 0.11, MeOH). UVmax (MeOH) (nm): 227; 268; 348. CD (nm, $\Delta\epsilon$): 217 (+6.17), 248 (+1.49), 287 (-6.07) (100 μ M, MeOH). ESIMS, m/z : 471 [M+Na]⁺. HRESIMS: calculated for C₂₁H₂₀O₁₁Na [M+Na]⁺: 471.3667, found 471.3675



Position	Experiment (CD ₃ OD)		Literature (CD ₃ OD) ^[16]	
	Proton	Carbon	Proton	Carbon
2	5.40 (dd, $J = 13.0, 3.1$ Hz)	80.9	5.39 (dd)	79.3
3	3.17 (dd, $J = 17.2, 13.0$ Hz)/ 2.75 (dd, $J = 17.2, 3.0$ Hz)	44.3	3.18 (dd)/ 2.75 (dd)	42.8
4		198.8		197.2
5		165.1		163.6
6	6.19 (m)	98.1	6.17 (brs)	96.5
7		166.8		165.1
8	6.19 (m)	97.1	6.16 (brs)	95.4
8a		164.8		163.2
4a		105.2		103.7
1'		131.0		129.4
2'	7.33 (d, $J = 8.2$ Hz)	129.0	7.33 (d)	127.7
3'	6.82 (d, $J = 8.2$ Hz, 1H)	116.5	6.82 (d)	114.9
4'		159.3		157.7
5'	6.82 (d, $J = 8.2$ Hz, 1H)	116.5	6.82 (d)	114.9

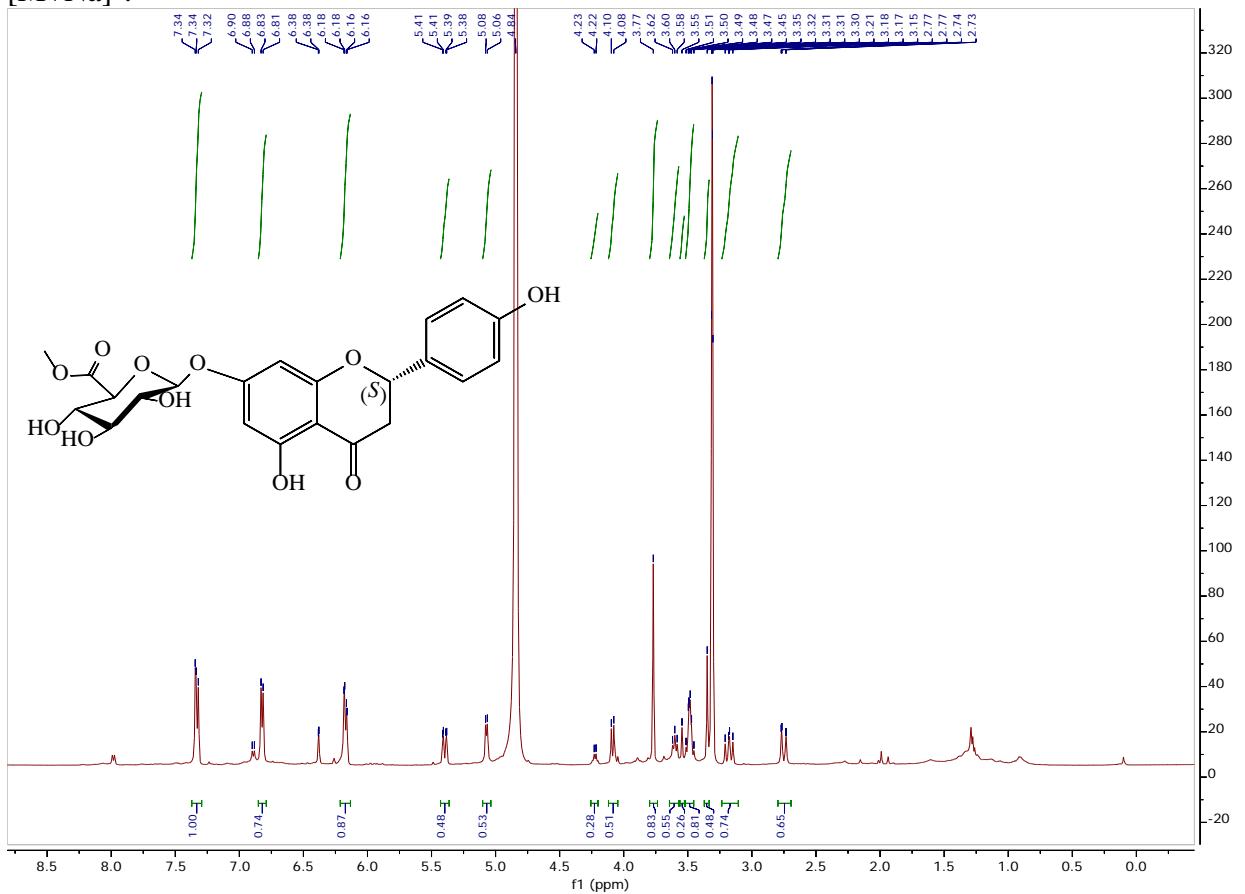
6'	7.33 (d, $J = 8.2$ Hz)		129.0	7.33 (d)	127.7
1	5.06 (dd, $J = 7.2, 3.6$ Hz)		101.2	5.07 (d)	99.6
2	3.49 (dd, $J = 6.5, 3.1$ Hz)		77.3	3.49 (dd)	75.6
3	3.47 (t, $J = 8.9$ Hz)		73.8	3.47 (t)	72.9
4	3.60 (t, $J = 8.9$ Hz)		72.6	3.60 (t)	71.4
5	4.03 (d, $J = 9.6$ Hz)		76.1	4.09 (d)	75.2
6		169.4		169.4	



CD spectrum for Compound 4

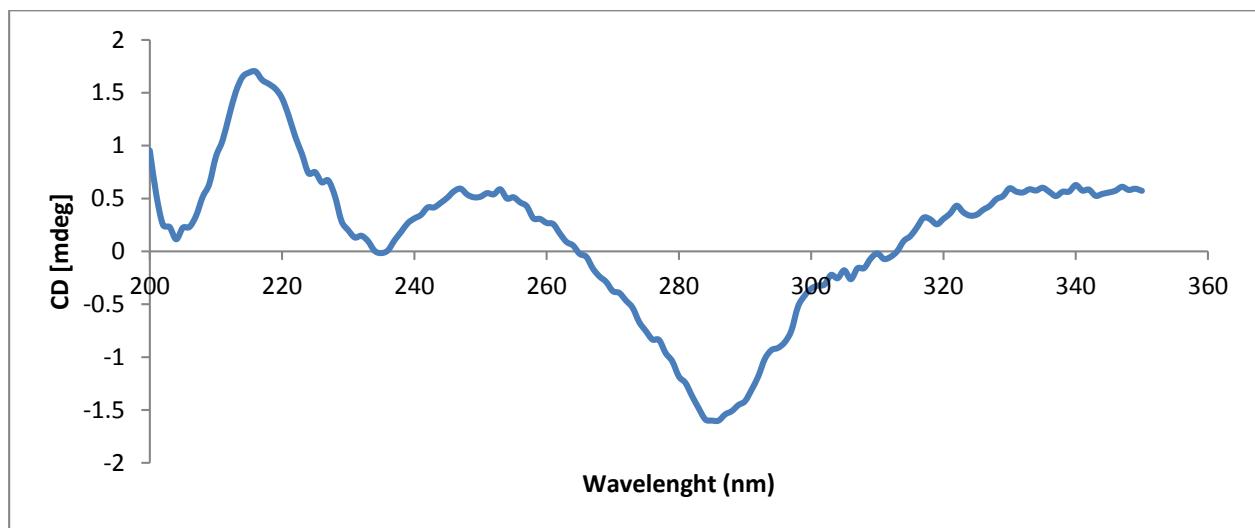
Compound 5

Prainianonide, Dark yellow solid. $[\alpha]_D^{25} +24.57^\circ$ (c 0.17, MeOH). UVmax (MeOH) (nm): 227; 268; 348. CD (nm, $\Delta\epsilon$): 217 (+1.7), 248 (+0.59), 287 (-1.60) (30 μ M, MeOH). ESIMS, m/z : 487 [M+Na]⁺.



Position	Experiment (CD ₃ OD)		Literature (CD ₃ OD) ^[16]	
	Proton	Carbon	Proton	Carbon
2	5.40 (dd, $J = 13.0, 3.1$ Hz)	80.9	5.39 (dd)	79.3
3	3.17 (dd, $J = 17.2, 13.0$ Hz)/ 2.75 (dd, $J = 17.2, 3.0$ Hz)	44.3	3.18 (dd)/ 2.75 (dd)	42.8
4		198.8		197.2
5		165.1		163.6
6	6.19 (m)	98.1	6.17 (brs)	96.5
7		166.8		165.1
8	6.19 (m)	97.1	6.16 (brs)	95.4
8a		164.8		163.2
4a		105.2		103.7
1'		131.0		129.4
2'	7.33 (d, $J = 8.2$ Hz)	129.0	7.33 (d)	127.7
3'	6.82 (d, $J = 8.2$ Hz, 1H)	116.5	6.82 (d)	114.9
4'		159.3		157.7
5'	6.82 (d, $J = 8.2$ Hz, 1H)	116.5	6.82 (d)	114.9
6'	7.33 (d, $J = 8.2$ Hz)	129.0	7.33 (d)	127.7

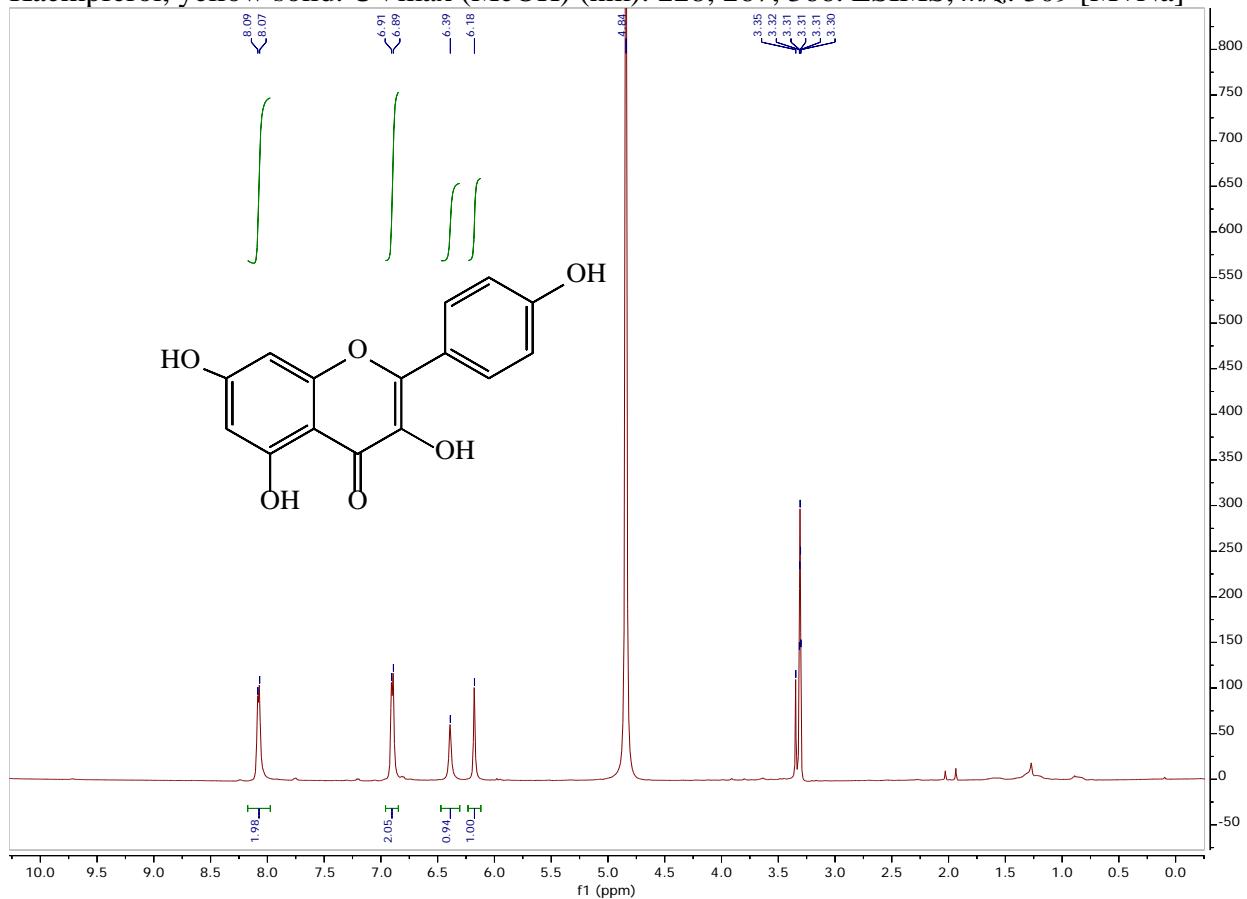
1	5.06 (dd, $J = 7.2, 3.6$ Hz)		101.2	5.07 (d)	99.6
2	3.49 (dd, $J = 6.5, 3.1$ Hz)		77.3	3.49 (dd)	75.6
3	3.47 (t, $J = 8.9$ Hz)		73.8	3.47 (t)	72.9
4	3.60 (t, $J = 8.9$ Hz)		72.6	3.60 (t)	71.4
5	4.03 (d, $J = 9.6$ Hz)		76.1	4.09 (d)	75.2
6			169.4		169.4
OCH ₃	3.78 (s)		52.3	3.76 (s)	51.5



CD spectrum for Compound 5

Compound 6

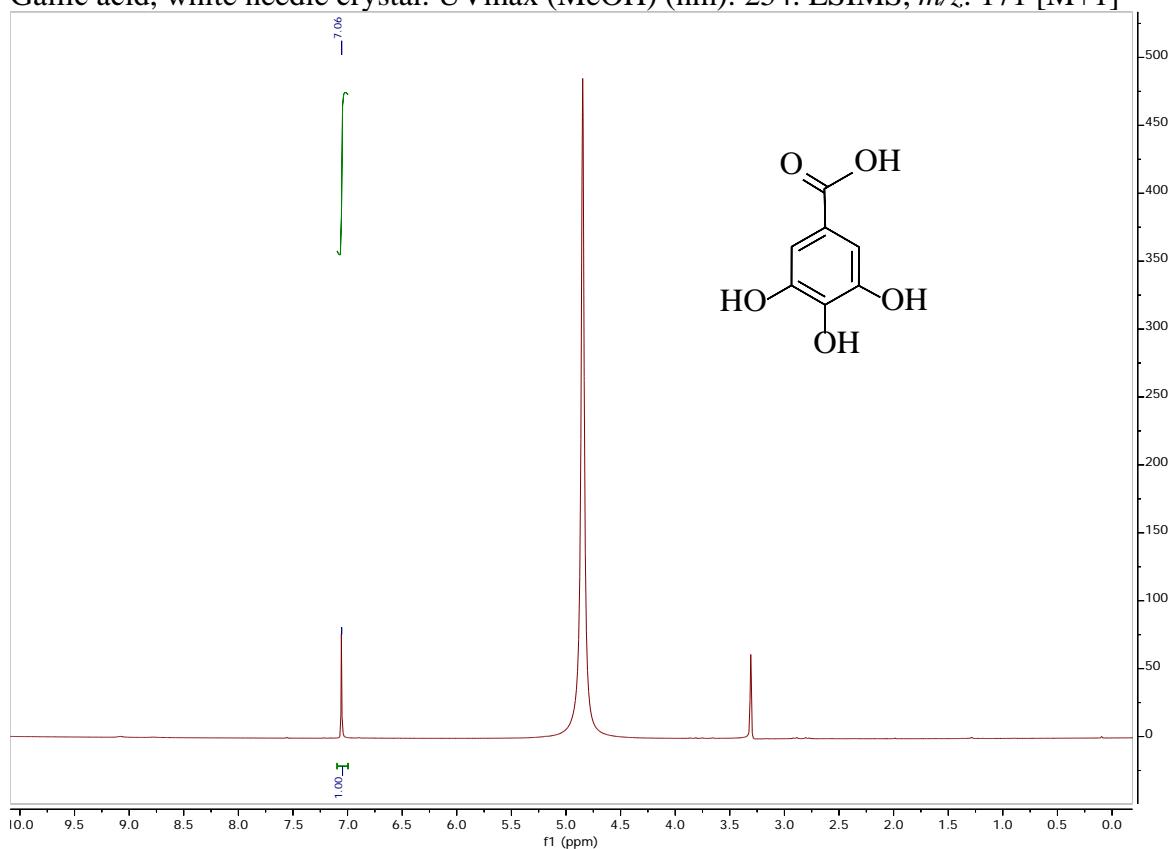
Kaempferol, yellow solid. UVmax (MeOH) (nm): 228; 267; 366. ESIMS, m/z : 309 [M+Na]⁺



Position	Experiment (CD_3OD)		Literature (CD_3OD) ^[14]	
	Proton	Carbon	Proton	Carbon
2		161.6		161.4
3		135.3		135.5
4		179.5		179.4
5		163.1		163.0
6	6.18 (d, $J = 2.0$ Hz)	99.8	6.21 (d)	99.9
7		166.1		166.0
8	6.39 (d, $J = 2.0$ Hz)	94.4	6.40 (d)	94.9
8a		158.6		158.5
4a		105.7		105.5
1'		122.7		122.7
2'	8.08 (d, $J = 8.6$ Hz)	132.6	8.05 (d)	132.3
3'	6.90 (d, $J = 8.6$ Hz)	116.4	6.89 (d)	116.1
4'		159.5		159.4
5'	6.90 (d, $J = 8.6$ Hz)	116.4	6.89 (d)	116.1
6'	8.08 (d, $J = 8.6$ Hz)	132.6	8.05 (d)	132.3

Compound 7

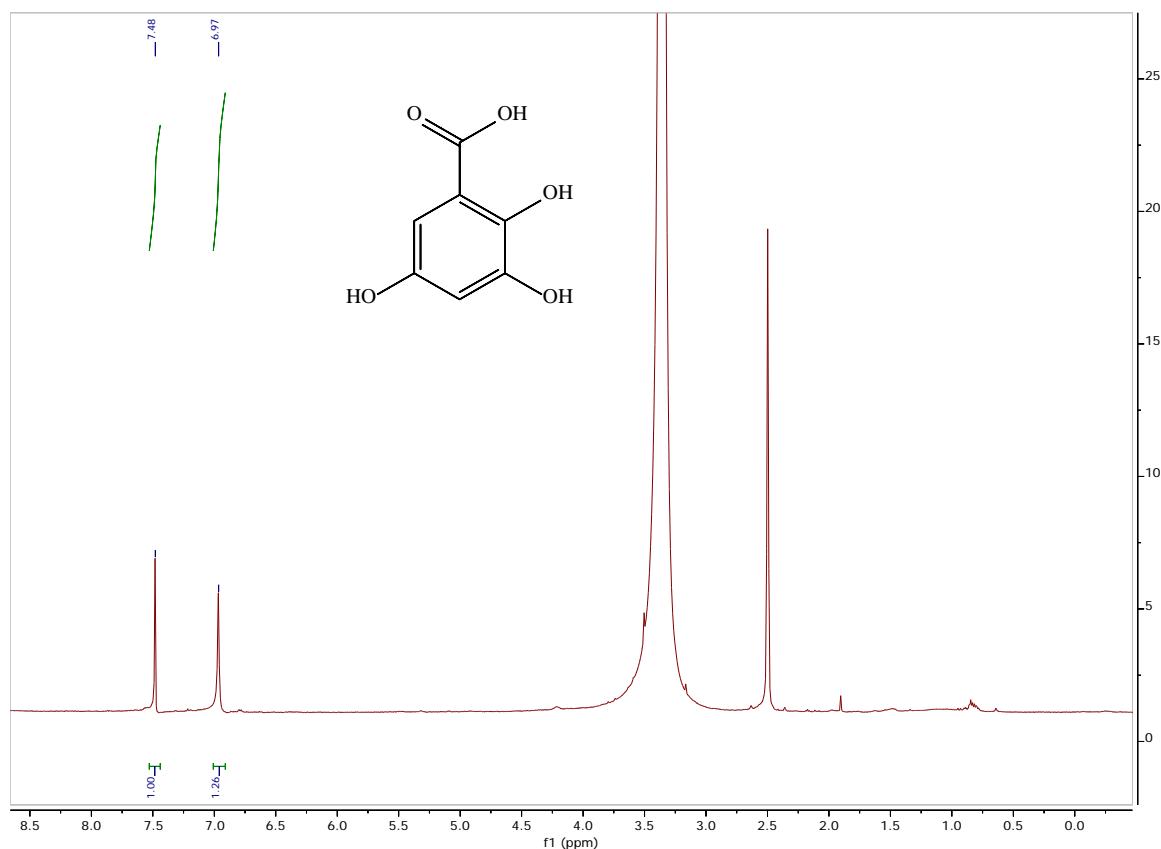
Gallic acid, white needle crystal. UVmax (MeOH) (nm): 254. ESIMS, m/z : 171 [M+1]⁺



Position	Experiment (CD_3OD)		Literature (CD_3OD) ^[17]	
	Proton	Carbon	Proton	Carbon
1		122.0		122.0
2	7.06 (s)	110.6	7.10 (s)	110.4
3		146.4		146.4
4		139.7		139.6
5		146.4		146.4
6	7.06 (s)	110.6	7.10 (s)	110.4
7		170.7		167.5

Compound 8

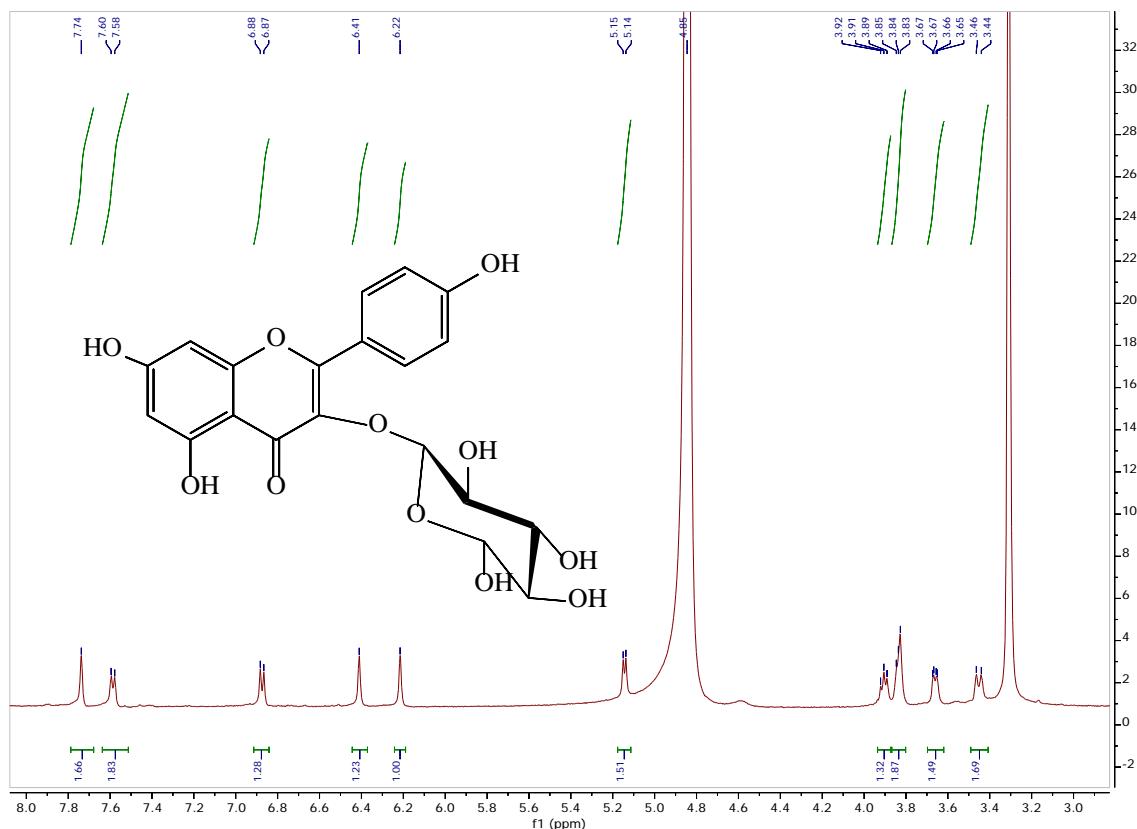
2,3,5-Trihydroxybenzoic acid, white solid. UVmax (MeOH) (nm): 254. ESIMS, m/z : 171 [M+1]⁺



Position	Experiment (DMSO-d ₆)		Literature (DMSO-d ₆) ^[17]	
	Proton	Carbon	Proton	Carbon
1		122.3		119.3
2		139.0		139.7
3		145.3		142.9
4	6.97 (s)	102.6	6.87 (s)	101.4
5		152.3		151.7
6	7.48 (s)	111.5	7.32 (s)	110.4
7		169.6		168.5

Compound 9

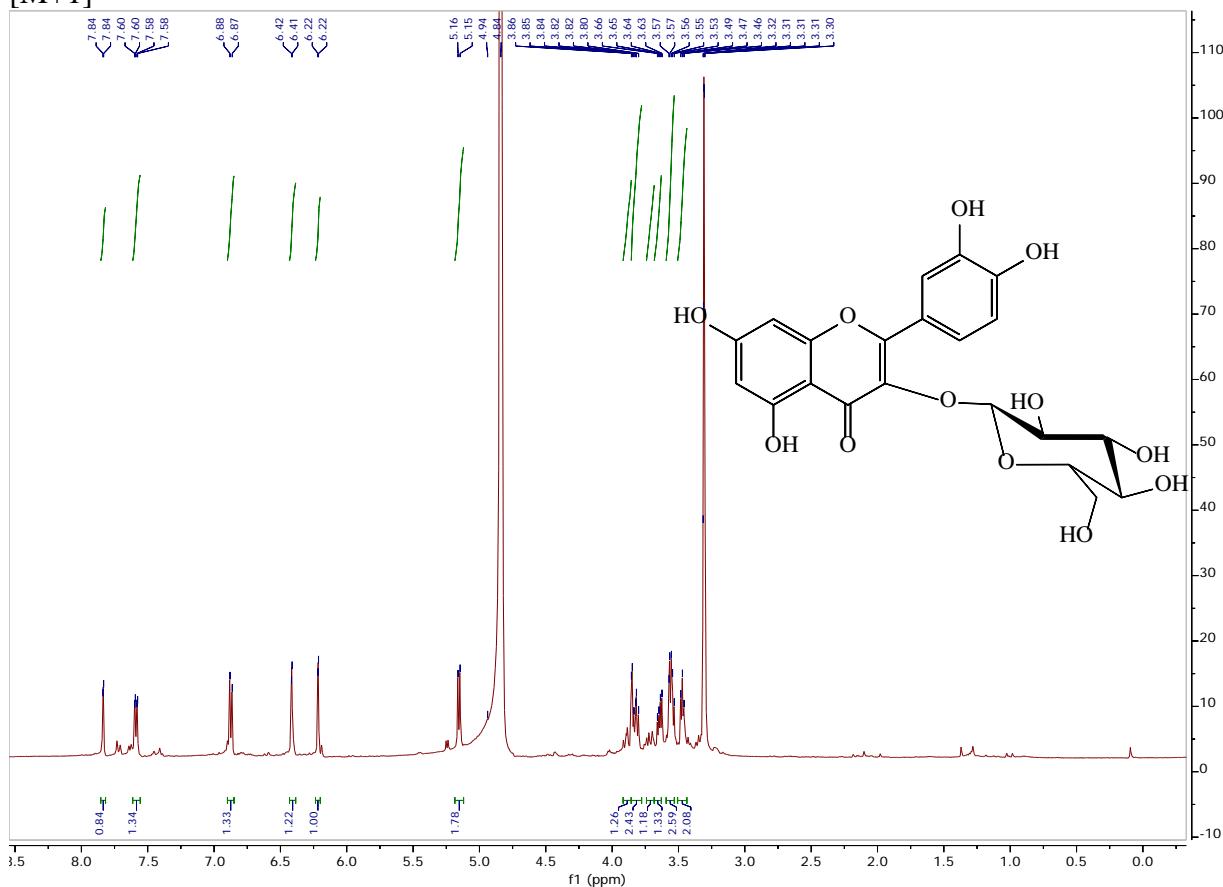
Avicularin. Yellow solid. UVmax (MeOH) (nm): 226; 259; 353. ESIMS, m/z : 435 [M+1]⁺



Position	Experiment (CD_3OD)		Literature (CD_3OD) ^[12]	
	Proton	Carbon	Proton	Carbon
2		158.5		157.2
3		134.1		134.1
4		178.9		178.9
5		163.1		163.2
6	6.21 (s)	99.2	6.22 (s)	98.3
7		165.0		165.0
8	6.41 (s)	95.2	6.41 (s)	94.0
8a		159.1		157.2
4a		116.0		116.0
1'		122.2		122.2
2'	7.74 (s)	117.1	7.54 (d)	117.0
3'		148.8		145.0
4'		145.9		148.8
5'	6.87 (d, $J = 8.5$ Hz)	116.7	6.92 (d)	116.7
6'	7.59 (d, $J = 8.4$ Hz)	122.5	7.52 (d)	122.0
1''	5.14 (d, $J = 6.5$ Hz)	104.5	5.48 (d)	109.5
2''	3.91 (t, $J = 7.7$ Hz)	72.2	4.35 (d)	82.1
3''	3.84 (d, $J = 9.4$ Hz)	67.1	3.90 (m)	78.3
4''	3.66 (dd, $J = 8.5, 3.2$ Hz)	73.5	3.86 (m)	88.0
5''	3.44 (s)	66.3	3.51 (t)	62.2

Compound 11

Quercetin 3-glucoside. Yellow solid. UVmax (MeOH) (nm): 228; 259; 359. ESIMS, *m/z*: 465 [M+1]⁺

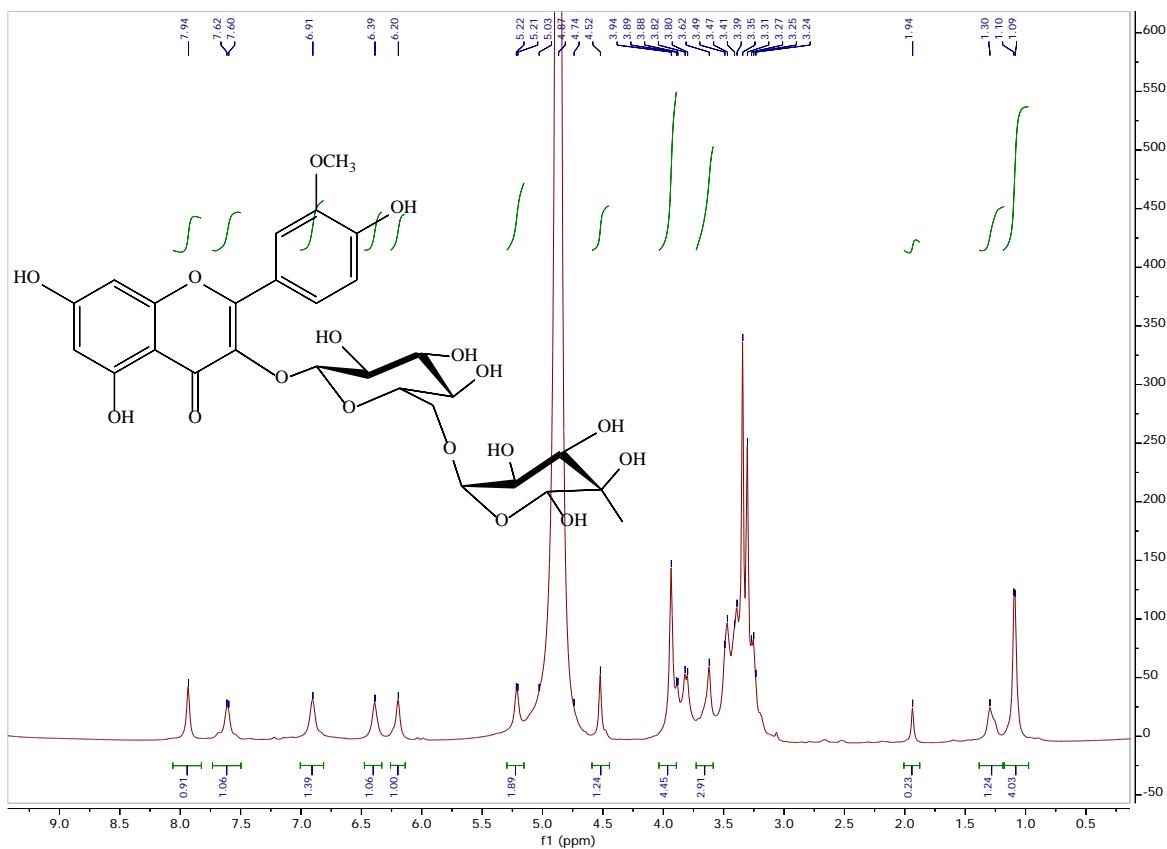


Position	Experiment (CD ₃ OD)		Literature (CD ₃ OD) ^[14]	
	Proton	Carbon	Proton	Carbon
2		158.2		156.6
3		135.6		135.2
4		179.7		175.9
5		163.2		161.0
6	6.21 (d, <i>J</i> = 2.1 Hz)	99.8	6.27 (d, <i>J</i> = 2.1 Hz)	97.8
7		165.9		164.1
8	6.41 (d, <i>J</i> = 2.1 Hz)	94.7	6.54 (d, <i>J</i> = 2.1 Hz)	93.5
8a		159.0		156.8
4a		105.9		104.1
1'		122.2		122.7
2'	7.84 (d, <i>J</i> = 2.2 Hz)	116.0	7.74 (d, <i>J</i> = 2.1 Hz)	114.8
3'		149.1		147.3
4'		146.8		144.8
5'	6.87 (d, <i>J</i> = 8.6 Hz)	115.7	6.90 (d, <i>J</i> = 8.5 Hz)	114.6
6'	7.59 (dd, <i>J</i> = 8.5, 2.3 Hz)	122.0	7.64 (dd, <i>J</i> = 8.5, 2.2 Hz)	120.2
1''	5.16 (d, <i>J</i> = 6.5 Hz)	104.5	5.24 (d, <i>J</i> = 7.4 Hz)	104.0
2''	3.47 (dd, <i>J</i> = 7.6 Hz)	75.7	3.44 (dd, <i>J</i> = 7.4 Hz, 9.1 Hz)	75.7

3"	3.42 (m)	78.1	3.41 (t, $J = 9.1$ Hz)	78.2
4"	3.34 (m)	71.1	3.32 (t, $J = 9.1$ Hz)	71.3
5"	3.25 (dd, $J = 6.5$ Hz, 8.4 Hz)	78.5	3.19 (ddd, $J = 2.2$ Hz, 5.8 Hz, 9.1 Hz)	77.2
6"	3.71 (1H, dd, $J = 10.5, 6.5$ Hz)/ 3.58 (1H, dd, $J = 10.5, 6.5$ Hz)	62.5	3.68 (dd, $J = 2.2$ Hz, 12.3 Hz) 3.52 (dd, $J = 5.8$ Hz, 12.3 Hz)	68.5

Compound 12

Isorhamnetin 3-rutinoside, pale yellow solid. UVmax (MeOH) (nm): 225; 268; 359; ESIMS, *m/z*: 625 [M+H]⁺

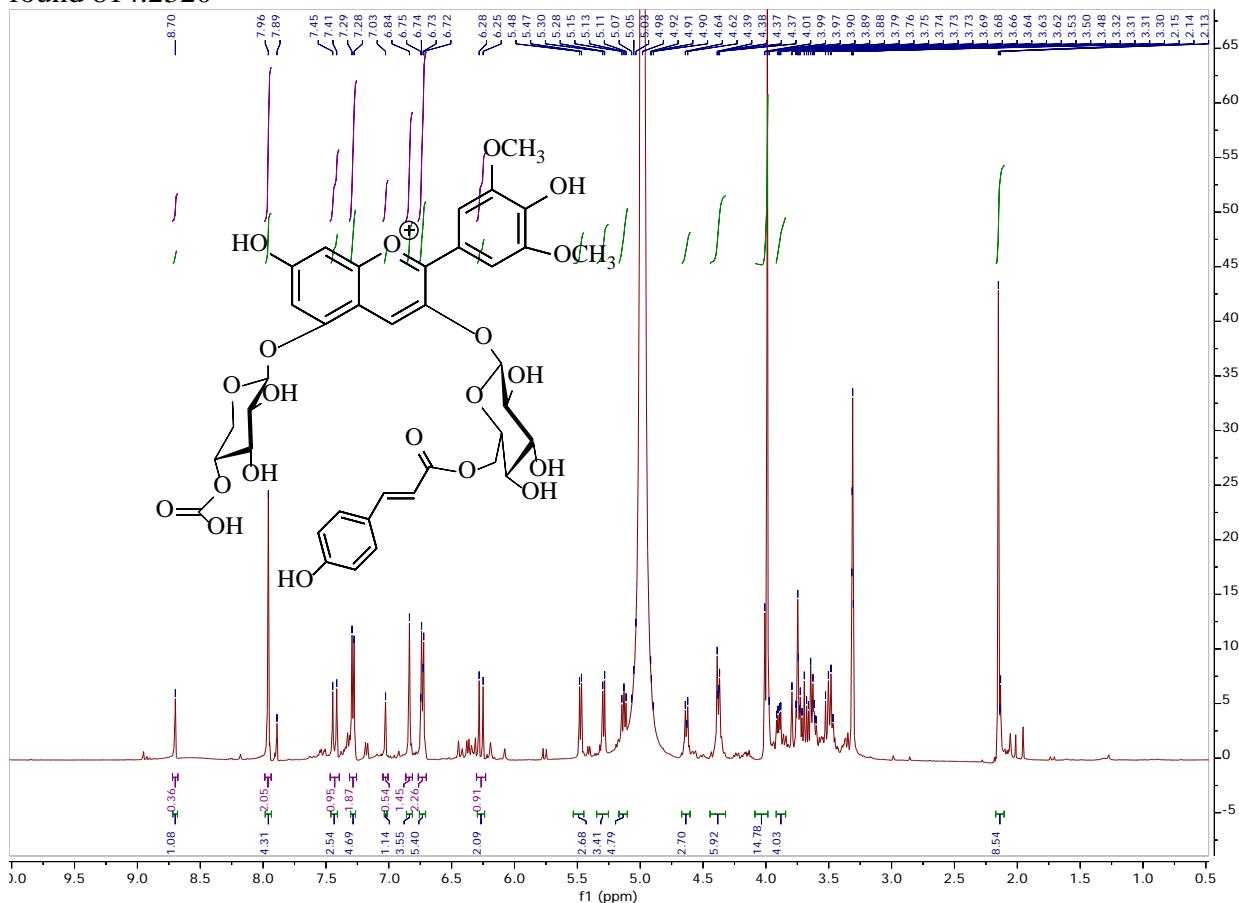


Position	Experiment (CD ₃ OD)		Literature (CD ₃ OD) ^[19]	
	Proton	Carbon	Proton	Carbon
2		159.6		157.1
3		135.6		134.2
4		179.7		178.0
5		163.6		161.8
6	6.21 (d, <i>J</i> = 2.1 Hz)	100.6	6.18 (d, <i>J</i> = 2.2 Hz)	99.2
7		163.8		166
8	6.41 (d, <i>J</i> = 2.1 Hz)	95.6	6.37 (d, <i>J</i> = 2.2 Hz)	94.0
8a		158.1		157.5
4a		107.5		104.2
1'		122.6		121.8
2'	7.74 (s)	116.2	7.92 (d, <i>J</i> = 1.8Hz)	113.6
3'		143.6		147.2
4'		149.0		149.7
5'	6.88 (d, <i>J</i> = 8.5 Hz)	115.8	6.90 (d, <i>J</i> = 8.4Hz)	114.9
6'	7.58 (d, <i>J</i> = 8.6Hz)	122.6	7.62 (d, <i>J</i> = 8.6 Hz)	122.8
OCH ₃	3.82 (s)	56.8	3.94 (s)	55.6
3-Glucosyl				

1	5.17 (d, <i>J</i> = 6.5 Hz)	104.1	5.21 (d)	104.4
2	3.47 (s)	75.9	Unresolved	74.9
3	3.43(m)	78.2	Unresolved	76.2
4	3.32 (m)	71.6	Unresolved	70.6
5	3.21 (m)	77.3	Unresolved	7703
6	3.52/ (m) 3.70 (d)	68.5	3.45 (m)/3.80 (d)	67.4
6"-Rhammnosyl				
1	4.53 (s)	101.3	4.52 (d)	101.3
2	3.62 (s)	70.8	Unresolved	70.8
3	3.49 (dd, <i>J</i> = 6.5 Hz, 8.4Hz)	71.1	Unresolved	71.1
4	3.26 (m)	72.6	Unresolved	72.6
5	3.42 (m)	68.6	Unresolved	68.6
6	1.24 (s)	16.7	1.09 (d)	16.7

Compound 13

Malvidin 3-(*p*-coumarylglucoside)-5-acetylxyloside, dark purple solid. UVmax (MeOH) (nm): 210; 291; 311; 537 ESIMS, *m/z*: 813 [M+1]⁺, HRESIMS: calculated for C₃₉H₄₂O₁₉ [M+1]⁺: 814.2338, found 814.2320



Position	Experiment (0.1% CF ₃ COOD in CD ₃ OD)		Literature (0.1% CF ₃ COOD in CD ₃ OD) ^[20]	
	Proton	Carbon	Proton	Carbon
2		162.5		162.0
3		145.5		145.0
4	8.70 (s)	135.8	8.56 (s)	130.7
5		157.7		154.4
6	6.84 (s)	102.9	6.99 (d)	103.2
7		167.8		167.4
8	7.02 (s)	95.8	6.92 (d)	96.8
8a		157.4		155.3
4a		111.5		111.6
1'		118.0		118.2
2'	7.96 (s)	109.9	8.56 (d)	110.0
3'		148.4	7.04 (d)	148.5
4'		144.9		145.6
5'		148.4	7.04 (d)	148.5

6'	7.96 (s)	109.9	8.56 (d)	110.0
OCH ₃	3.99 (s)	55.8	3.97 (s)	56.6
<i>p</i> - Coumaryl				
1"		167.9		166.9
2"	6.27 (d, <i>J</i> = 15.9 Hz)	113.4	6.31 (d)	113.7
3"	7.45 (d, <i>J</i> = 15.8 Hz)	145.5	7.50 (d)	145.3
4"		125.3		125.2
5"	7.28 (d, <i>J</i> = 8.1 Hz)	130.0	7.44 (d)	130.4
6"	6.73 (d) (d, <i>J</i> = 8.1 Hz)	115.1	6.79 (d)	115.7
7"		159.8		160.0
8"	6.73 (d) (d, <i>J</i> = 8.1 Hz)	115.1	6.79 (d)	115.7
9"	7.28 (d, <i>J</i> = 8.1 Hz)	130.0	7.44 (d)	130.4
Acetyl				
1'''		171.1		170.7
2'''	2.15 (s)	19.8	2.12 (s)	21.3
Xylosyl				
1	5.29 (d, <i>J</i> = 7.5 Hz)	99.9	5.45 (d)	99.7
2	5.13 (dd, <i>J</i> = 7.5 Hz, 8.0 Hz)	73.7	5.00 (dd)	73.7
3	3.75 (dd, <i>J</i> = 8.5 Hz, 8.0 Hz)	73.2	3.60 (t)	73.2
4	3.66 (dd, <i>J</i> = 7.5 Hz, 8.0 Hz)	76.9	3.48 (m)	76.7
5	3.51 (1H, dd, <i>J</i> = 10.5, 6.5 Hz)/3.91 (1H, dd, <i>J</i> = 10.5, 6.5 Hz)	65.5	3.80 dd/ 3.55 (m)	65.9
Glucosyl				
1	5.48 (d, <i>J</i> = 7.7 Hz)	99.8	5.34 (d)	100.6
2	3.79 (dd, <i>J</i> = 7.5 Hz, 8.0 Hz)	73.24	3.61 (t)	73.2
3	3.48 (dd, <i>J</i> = 8.5 Hz, 8.0 Hz)	70.5	3.50 (t)	76.7
		8		
4	3.63 (dd, <i>J</i> = 7.5 Hz, 8.0 Hz)	69.1	3.39 (t)	69.9
5	4.38 (dd, <i>J</i> = 7.5 Hz, 8.0 Hz)	74.1	4.24 (m)	74.2
6	4.63 (1H, dd, <i>J</i> = 10.5, 6.5 Hz)/4.21 (1H, dd, <i>J</i> = 10.5, 6.5 Hz)	63.2	4.53 (d)/ 4.26 (m)	63.5

GCMS profile from Alstonville (*T. lepidota*) and Illawarra flame (*B. acerifolius*) hexane extracts.

Alstonville (<i>T. lepidota</i>)		Illawarra flame (<i>B. acerifolius</i>)	
No.	Compound name	Peak No.	Compound name
1.	Hexanal	1.	Cyclohexane
2.	2-Heptenal	2.	2,2,2-Trifluoroacetamide
3.	2-Propyl-tetrahydrofuran	3.	Hexadecamethylheptasiloxane
4.	Octanal	4.	Octadecamethyloctasiloxane
5.	2-Chlorocyclohexanol		
6.	Nonanal		
7.	Decanal		
8.	(Z) 2-Decenal		
9.	Methyl isohexadecanoate		
10.	Eicosanoic acid		
11.	Dibutyl phthalate		
12.	Ethyl hexadecanoate		
13.	(E) 2-Tetradecen-1-ol		
14.	(E) 9-Octadecenoic acid ethyl ester		
15.	Ethyl docosanoate		

Reference*

*The reference corresponds to the manuscript.

- [12] H.M. Sirat, M.F. Rezali, Z. Ujang, J Agric Food Chem. 2010;58(19), 0404-9.
- [14] K. Kazuma, N. Noda, M. Suzuki, *Phytochem.* 2003;62(2), 229-37.
- [15] K. Hosokawa, Y. Fukunaga, E. Fukushi, J. Kawabata, *Phytochem.* 1995;40(2), 567-71.
- [16] S. Klaiklay, Y. Sukpondma, V. Rukachaisirikul, N. Hutadilok-Towatana, K. Chareonrat, Can. J. Chem. 2011;89(4), 461-4.
- [17] D. Tarbeeva, S. Fedoreev, M. Veselova, A. Kalinovskii, P. Gorovoi, O. Vishchuk, *Chem Nat Comp.* 2015;51(3), 451-5.
- [19] I.O. Vvedenskaya, R.T. Rosen, J.E. Guido, D.J. Russell, K.A Mills, N. Vorsa, J Agric Food Chem. 2004;52(2), 188-95.
- [20] N. Terahara, H. Suzuki, K. Toki, H. Kuwano, N. Saito, T. Honda, J. Nat. Prod. 1993;56(3), 335-40.